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Donald F. Haas

Date: July 1, 2004

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of)
)
DAVID M. SINGLETON, LOUIS KRAVETZ,)
BRENDAN D. MURRAY)
)
Serial No. 09/655,964) Group Art Unit: 1751
)
Filed September 6, 2000) Examiner: Necholus Ogden Jr.
)
HIGHLY BRANCHED PRIMARY ALCOHOL) July 1, 2004
COMPOSITIONS, AND BIODEGRADABLE)
DETERGENTS MADE THEREFROM)

COMMISSIONER FOR PATENTS
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

RESPONSE

These remarks are submitted in response to the Office Action of April 20, 2004. Claims 1-10, 12, 70-73, and 75-102 were presented for examination and have been rejected under Section 103(a) as being unpatentable over Murata et al. (U.S. Patent No. 4,075,129). This rejection is respectfully traversed.

Claim 1 and the claims that are dependent upon it describe a biodegradable sulfate composition comprising sulfates of an alkyl branched primary alcohol composition which has less than 0.5 atom percent of quaternary carbon atoms, the branching comprises methyl and ethyl branches, and 5 to 30 percent of the number of branches are ethyl branches. Claim 70 and the claims that are dependent upon it describe a branched primary alcohol composition which has less than 0.5 atom percent of quaternary carbon atoms and less than 5 percent of the alcohol molecules

in the composition are linear alcohols. Claim 85 and the claims that are dependent upon it describe a biodegradable sulfate composition comprising sulfates of an alkyl branched primary alcohol composition which has less than 0.5 atom percent of quaternary carbon atoms, the branching comprises methyl and ethyl branches, and 5 to 25 percent of the number of branches are on the C₂ atoms of the alcohol composition. Claim 94 and the claims that are dependent upon it describe the branched primary alcohol composition used to make the sulfate composition of claim 85. Murata et al. does not describe any of the limitations mentioned above and thus its disclosure is not sufficient as a basis for a conclusion of obviousness in this case.

The alcohol compositions and sulfate compositions of the present invention are effective in terms of biodegradability and also exhibit good detergency at cold wash temperatures. Neither of these factors are mentioned in Murata et al. Murata et al. describes a composition which possesses excellent resistance to hard water.

The composition of Murata et al. is comprised of up to 70 percent by weight of a linear alkyl ether sulfate and at least 30 percent by weight of a branched alkyl ether sulfate. As can be seen in the formula of the branched alkyl ether sulfates of Murata et al., all of the branching takes place at the C₂ atom of the branched alcohol used to form the sulfate composition. Obviously, this means that the branched sulfate of Murata et al. has 100 percent branching at the C₂ atom. Furthermore, the branching is an unbranched alkyl having 1 to 4 carbon atoms.

Therefore, Murata et al. is completely distinguishable from the composition of the present invention because it requires that all of the branching be at the C₂ position and that is not the case in the present invention. Independent claims 85 and 94 and various other dependent claims require that only 5 to 25 percent of the number of branches in the branched alcohol composition can be on the C₂ atoms of the composition. In this way, Murata et al. discloses the same thing as the previous reference which the Applicants have successfully argued does not show very close structural similarity to the claims of the present invention.

The Examiner has again made the very close structural similarity and similar utility argument made with respect to the previous reference. Since in the relevant sense, i.e., the requirement of 100 percent branching at the C₂ position, all of the arguments made with respect to the previous reference in the response to final rejection of November 20, 2003 apply equally as well, if not better, since there is no disclosure in Murata et al. of any utility for cold water detergency. The rejection over Murata et al. of these claims must fail in response to those arguments.

Claims 1 and 70 require that the branched alcohol composition contain less than 0.5 atom percent of quaternary carbon atoms. Murata et al. is entirely silent on that issue and there is no way for anyone to determine from its disclosure what the percentage of quaternary carbon atoms might be in these compositions. Therefore, Murata et al. is insufficient to render these claims obvious.

Claim 1 contains the limitation that 5 to 30 percent of the number of branches are ethyl branches. There is no discussion in Murata et al. about any particular length of the alkyl group which forms the branch. It merely says that it will contain 1 to 4 carbon atoms. The surface active agents listed in Table 1 which are branched merely say that they are sodium alkyl sulfates and there is no specification as to the length of the alkyl group. Thus, Murata et al. does not describe the ethyl branching limitation of claim 1 and certainly does not suggest it either.

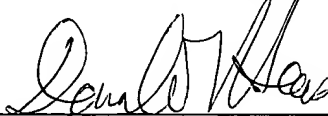
The Applicants assert that the Examiner has not established a prima facie case for obviousness. The arguments made in the response to the final rejection concerning the lack of a prima facie case of obviousness made for the previous reference (pages 4-11) apply equally to the Murata reference. The data provided in the examples of this application, which is discussed in the response to the final rejection, clearly supports the advantages of the claim limitations in claims 1, 70, 85, and 94 and of the dependent claims that contain those limitations also. This includes claims 77-101 which, as discussed on page 12 of the response to the final rejection, are patentable independently of the other claims.

Finally, the Applicants submitted evidence of secondary considerations for the patentability of the present claims in the response to the final rejection. The Applicants reassert this evidence and suggest that it applies equally as well with respect to Murata et al. The Examiner has not commented on this evidence in the most recent office action.

For the reasons discussed above, the Applicants assert that the Examiner has not proven the prima facie case of obviousness over Murata et al. The Applicants request that the rejection be removed and that an early notice of allowance be issued.

Respectfully submitted,

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